

Notice of Allowability	Application No.	Applicant(s)	
	09/786,960	HOWARD ET AL.	
	Examiner	Art Unit	
	Medina A Ibrahim	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment of 2/25/04.
2. ☒ The allowed claim(s) is/are 1-5, 7-8, 12-16, 19-21, 27-29, and 32, renumbered as 1-19, respectively.
3. ☒ The drawings filed on 12 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>04-04</u> . |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Patricia Sweeney on 04/28/04.

The application has been amended as follows:

In The Specification:

On page 5, line 14 of the specification, the hyperlink "http" in the bracket has been deleted.

In The Abstract:

The sentence "The plant having the laccase gene may additionally contain a substance that is a mediator of laccase delignification." has been deleted.

In The Claims:

Claim 1 (Currently amended). A transgenic plant comprising a nucleotide sequence encoding laccase, operably linked to a promoter [which controls expression of the laccase in the plant], wherein the laccase is preferentially expressed in the seed at levels of about 0.01% or higher of the total soluble protein of said plant [and is preferentially expressed in the seed].

At claims 2-4, ---, --- has been inserted before "wherein"; and ---of the total soluble protein of said plant---- has been inserted before the period.

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At claims 5,7, and 12 ---, --- has been inserted before "wherein".

At claim 8 ---, --- has been inserted before "wherein" and after "maize".

At claim 13 "Seed" has been replaced with ---Transformed seed ---.

At claim 14, "Plant cells" has been replaced with ---Transformed plant cells---.

Also, a period has been inserted at the end of the claim.

Claim 15 (Currently amended). A method of producing laccase in a plant [plants] comprising introducing [a construct] into the plant a construct comprising a nucleotide encoding laccase operably linked to a promoter [which controls expression of the laccase in the plant], wherein the laccase is preferentially expressed in the seed at levels of about 0.01% or higher of the total soluble protein of said plant [and is preferentially expressed in the seed], and extracting the laccase from the seed.

Claim 16 (Currently amended). The method of claim 15, wherein the construct further comprises a signal sequence which preferentially directs [directing] expression of the laccase to the plant cell wall.

At claims 19-20, ---, --- has been inserted before "wherein"

At claim 21 ---, --- has been inserted before "wherein" and after "maize".

At claims 27-28, and 30, ---, --- has been inserted before "wherein".

Claims 25, 30 and 35 have been cancelled.

Claim 32 (Currently amended). The plant of claim 1 further comprising a signal sequence [sequences] which preferentially directs [direct] expression of the laccase to the plant cell wall.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Applicant provides guidance for a transgenic plant comprising a nucleotide sequence encoding laccase, wherein laccase is expressed in the seed of the plant at levels of 0.01%, 0.1%, and 10% of the total soluble protein upon transformation with a nucleotide sequence encoding laccase from *Trametes versicolor*. Other nucleotide sequences encoding laccase had been isolated and characterized prior to the filing date of the instant application, including from several plants and other fungi as evidenced by the specification, page 4 and Applicant response of 10/31/03; and synthetic laccase (Accession no: AAT69941; AAT69940; AAT69939; and AAT74312 (DGENE 1997). One would have a reasonable expectation that substitution of any of the prior art nucleotide sequences for the disclosed nucleotide sequence would likewise result in the production of same levels of active laccase in the seed, since laccases from different organisms share common catalytic activity. The closest prior art references are WO 98/1 1205 and WO 97/45549 that teach expression of laccase in transgenic plants for lignin modification. However, the prior art references do not teach production of laccase in the seed at levels of about 0.01%, 0.1%, and 10% of the total soluble protein of the plant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM . Before and After final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (571) 272-0804.

5/2/04

Mai



ASHWIN D. MEHTA, PH.D
PATENT EXAMINER